SPECIFICATION:

Please enter the following changes to the specification.

[0005] An object of the present invention is to provide a system for supplying compressed gas in which it is possible to verify whether the compressor of the system is delivering (or not) compressed gas to pressure tanks included in the system. This object is achieved by means of the first control member as described hereinabove regarding the inventive system. By virtue of the fact that the system also comprises a second control member, connected in signaling terms to a pressure sensor and arranged in the pressure tanks, that is configured (i.e., programmed) to establish whether the compressor is operating (pumping air) because not only is tank pressure measured (recorded) by the pressure sensor, but so are changes in pressure in the pressure tank. From this information, it is possible to verify whether compressed gas is actually being delivered to the pressure tanks. According to a preferred embodiment of the invention, this information (knowledge) can be used to control a system for cooling the compressed air. According to a second embodiment, this knowledge can also be used to provide information on whether the compressor is in working order, by comparing control instructions from the first control member and the second control member, with function errors being found when the first control member indicates that the compressor is active and the second control member indicates that the compressor is passive, or vice versa. According to a third embodiment, this knowledge can also be used as information for preventive maintenance for replacing desiccant cartridges in air driers and/or replacing compressors.

[0015] The second control member 9 is arranged (i.e., programmed) to establish that the compressor is operating by means of the pressure recorded by the pressure sensor and the changes in pressure in the pressure tank, as will be described below.

[0016] The second control member, without actually generating control signals to the compressor, thus establishes (by virtue of its programming) that the latter is operating by virtue of a pressure sensor 10, which is mounted in the pressure tank, and that is recording the pressure

and pressure changes in the pressure tank 6. This is achieved by the fact that the second control member 9 establishes (by its programming) that the compressor 2 is operating when the pressure sensor 10 records a pressure in the pressure tank 6 below a first limit value. The second control member 9 establishes (by its programming) that the compressor is not operating when the pressure sensor 10 records a pressure in the pressure tank 6 above a second limit value. The second control member 9 establishes (by its programming) that the compressor 2 is operating when the pressure sensor 10 records a pressure in the pressure tank 6 between the first and second limit values and the sensor 10 records that the pressure is rising. The second control member 9 establishes (by its programming) that the compressor 2 is not operating when the pressure sensor 10 records a pressure in the pressure tank 6 between the first and second limit values and the sensor records that the pressure is dropping or is constant. According to one embodiment of the invention, the control member is also arranged to establish (by its programming) that there is a risk of a function error if the pressure does not rise above a lower limit value and that an error exists if the pressure rises above an upper limit value.

[0017] Figure 2 is a diagrammatic representation of a method (e.g., as implemented in programming) of determining whether the compressor 2 is, or is not driven in an active position when the compressor is feeding air to a pressure tank 6. A first step 40 determines whether the pressure in the pressure tank is above a first limit value, P_{max}. If such is the case, the compressor is inactive. A second step 41 determines if the pressure is below a second limit value, P_{min}. If such is the case, the compressor is active. In a third step 42, it is noted if the pressure in the tank is rising. If such is the case, the compressor is active. Otherwise, the compressor is inactive.

[0025] The control unit 18 comprises a second control member 9 in accordance with what has been described above, which, without actually generating control signals to the compressor, establishes (by its programming) that the latter is operating by means of a pressure sensor 10, which is mounted in the pressure tank 6, recording the pressure and the changes in pressure in the pressure tank 6. This is achieved by the fact that the control unit establishes (by its programming) that the compressor is operating when the pressure sensor records a pressure in the pressure tank below a first limit value. The control unit establishes (by its programming) that the compressor is

not operating when the pressure sensor records a pressure in the pressure tank above a second limit value. The control unit establishes (by its programming) that the compressor is operating when the pressure sensor records a pressure in the pressure tank between the first and second limit values and the sensor records that the pressure is rising. The control unit establishes (by its programming) that the compressor is not operating when the pressure sensor records a pressure in the pressure tank between the first and second limit values and the sensor records that the pressure is dropping or is constant.

[0026] Figure 4 is a diagrammatic representation (flow chart) of steps (e.g., which may be implemented by programming) which, according to one embodiment of the invention, are gone through in order to establish whether or not there is a cooling requirement. A first method step 30 establishes whether the compressor 2 is, or is not feeding air to the system. If the compressor is not operating, there is no cooling requirement. A second step 31 determines whether the speed of rotation of the compressor exceeds a certain limit value. In one embodiment in which the compressor is driven by a combustion engine, the speed of rotation of the combustion engine is noted and cooling requirements may exist if the speed of rotation exceeds the idling speed of the combustion engine, which corresponds to a speed of about 700 rpm. A third step 32 determines whether the external temperature exceeds a certain limit value. A cooling requirement exists only if the external temperature exceeds this limit value. According to one embodiment, this limit value is set at 0°C. A fourth step 33 determines whether a vehicle in which the compressed-air system is mounted is being driven forwards at a speed in excess of a limit value. A cooling requirement exists only if the speed is below this limit value. According to one embodiment, the limit value is set at 50 km/h. When the checks according to steps one through to four have been carried out and the responses have been in the affirmative, the control unit, in a fifth step 34, generates an activation signal for the electrically controlled fan